

AMENDMENTS TO THE CLAIMS

- 1 1. (Currently Amended) A method for verifying scan chain equivalency
2 between two representations of a circuit design having at least one scannable state
3 element, at least one scan-out pin and at least one output pin, comprising:
4 for each representation of the circuit design, loading each scannable state element
5 with a symbolic expression that characterizes a logical location of said
6 scannable element in the circuit design; and
7 for each representation of the circuit design, performing a scan shift operation to
8 verify [the contents of each] the scannable state-element contents at said
9 scan-out pin and said output pin[s] of the design.
- 1 2. (Original) The method of claim 1, wherein the two representations of
2 a circuit design comprise a switch-level netlist and an RTL netlist.
- 1 3. (Original) The method of claim 1, wherein the two representations of
2 a circuit design comprise a transistor level implementation and a behavioral level
3 description.
- 1 4. (Original) The method of claim 1, wherein the two representations of
2 a circuit design comprise RTL and schematic models of a memory circuit.
- 1 5. (Original) The method of claim 1, wherein the two representations of
2 a circuit design comprise a first RTL model of a storage circuit and a second RTL model
3 of a storage circuit.
- 1 6. (Original) The method of claim 1, wherein the two representations of
2 a circuit design comprise a SPICE-level netlist and a gate level description.
- 1 7. (Original) The method of claim 1, wherein said loading of each
2 scannable state element with a symbolic expression comprises simulating said circuit
3 design in a functional mode for a first minimum threshold number of cycles by applying
4 symbolic expressions to at least a first input for said circuit design.

1 8. (Currently Amended) The method of claim 7, wherein said first minimum
2 threshold number comprises [the] a maximum sequential depth of all scannable state-
3 elements on all paths from all primary inputs in said circuit design.

1 9. (Original) The method of claim 1, wherein said loading and
2 performing steps are implemented with a symbolic simulator to check scan chain
3 equivalency with respect to complete scan chain connectivity from primary input to
4 primary output, logical location of all scannable state elements, scan chain length and
5 scan chain order.

1 10. (Original) The method of claim 1, wherein said loading and
2 performing steps are implemented with a symbolic simulator to obtain complete
3 coverage.

1 11. (Original) The method of claim 1, wherein said scan shift operation
2 comprises simulating a sequence of scan clocks equal to a multiple of the number of
3 scannable state-elements in the circuit design.

1 12-20. (Cancelled)

1 21. (New) A method for verifying scan chain equivalency between two
2 representations of a circuit design having at least one scannable state element, at least one
3 scan-out pin and at least one output pin, comprising:
4 for each representation of the circuit design, loading each scannable state element
5 with a symbolic expression that characterizes a logical location of said
6 scannable element in the circuit design;
7 for each representation of the circuit design, performing a scan shift operation to
8 generate scan-out pin values at said scan-out pin; and
9 comparing scan-out pin values from each representation of the circuit design to
10 verify scan chain equivalency between the two representations of the
11 circuit design.